

MATERIAL SAFETY DATA SHEET



DURSBAN* 50W INSECTICIDE

Emergency Phone: 800-992-5994
Dow AgroSciences • Indianapolis, IN 46268

Effective Date: 01/01/98
Product Code: 26075
MSDS: 004771

1. PRODUCT AND COMPANY IDENTIFICATION:

PRODUCT: DURSBAN* 50W INSECTICIDE

COMPANY IDENTIFICATION:

Dow AgroSciences
P.O. Box 681428
9330 Zionsville Road
Indianapolis, IN 46268-1189
www.dowagro.com

2. COMPOSITION/INFORMATION ON INGREDIENTS:

Chlorpyrifos:

O,O-diethyl-O-3,5,6-trichloro-2-pyridinyl phosphorothioate
CAS # 002921-88-2 50%

Kaolinite clay: CAS # 001332-58-7

Other Proprietary Ingredients: including 50% wetting agents

This document is prepared pursuant to the OSHA Hazard Communication Standard (29 CFR) 1910.1200. In addition, other substances not 'Hazardous' per this OSHA Standard may be listed. Where proprietary ingredient shows, the identity may be made available as provided in this standard.

3. HAZARDOUS IDENTIFICATIONS:

EMERGENCY OVERVIEW

Hazardous Chemical. Light gray powder with petroleum odor. May cause eye irritation. Cholinesterase inhibitor. Avoid high temperatures; product undergoes exothermic decomposition above 130°C (266°F). Toxic to aquatic organisms.

EMERGENCY PHONE NUMBER: (U.S.) 800-992-5994

POTENTIAL HEALTH EFFECTS: This section includes possible adverse effects which could occur if this material is not handled in the recommended manner.

EYE: May cause pain and slight eye irritation.

SKIN: Prolonged exposure not likely to cause significant skin irritation. A single prolonged exposure is not likely to result in the material being absorbed through skin in harmful amounts. The LD50 for skin absorption in rabbits is >2000 mg/kg.

INGESTION: Single dose oral toxicity is moderate. The oral LD50 for female rats is 380 mg/kg. Small amounts swallowed incidental to normal handling operations are not likely to cause injury; however, swallowing amounts larger than that may cause serious injury, even death.

INHALATION: Single exposure to dust is not likely to be hazardous. The LC50 for rats is >1.5 mg/L for 4 hours. This was the highest attainable concentration.

SYSTEMIC (OTHER TARGET ORGAN) EFFECTS:

Excessive exposure may produce organophosphate type cholinesterase inhibition. Signs and symptoms of excessive exposure to active ingredient may be headache, dizziness, incoordination, muscle twitching, tremors, nausea, abdominal cramps, diarrhea, sweating, pinpoint pupils, blurred vision, salivation, tearing, tightness in chest, excessive urination, and convulsions. Chlorpyrifos produced mild adrenal effects when fed to rats, but only at doses that

greatly exceeded any exposures that would be received during use of this product.

CANCER INFORMATION: Chlorpyrifos did not cause cancer in long-term animal studies.

TERATOLOGY (BIRTH DEFECTS): Chlorpyrifos did not cause birth defects in laboratory animals.

REPRODUCTIVE EFFECTS: Chlorpyrifos did not interfere with fertility in reproduction studies in laboratory animals. Some evidence of toxicity to the offspring occurred, but only at a dose high enough to produce significant toxicity to the parent animals.

4. FIRST AID:

EYES: Flush with plenty of water for 5 minutes. Get medical attention if irritation persists.

SKIN: Wash with plenty of soap and water. Get medical attention.

INGESTION: Call a physician or poison control center. Drink 1 or 2 glasses of water and induce vomiting by touching back of throat with finger. Do not induce vomiting or give anything by mouth to an unconscious person.

INHALATION: Remove individual to fresh air if symptoms of cholinesterase inhibition appear and get medical attention immediately.

NOTE TO PHYSICIAN: Chlorpyrifos is a cholinesterase inhibitor. Treat symptomatically. If exposed, plasma and red blood cell cholinesterase tests may indicate significance of exposure (baseline data are useful). Atropine, only by injection, is the preferable antidote. Oximes, such as 2-PAM/protopam, may be therapeutic if used early; however, use only in conjunction with atropine. In case of severe acute poisoning, use antidote immediately after establishing an open airway and respiration. Supportive care. Treatment based on judgment of the physician in response to reactions of the patient.

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5. FIRE FIGHTING MEASURES:

FLASH POINT: Not applicable **METHOD USED:** Not applicable

FLAMMABLE LIMITS LFL: Not applicable **UFL:** Not applicable

EXTINGUISHING MEDIA: If product is involved in fire, use water fog, foam, CO₂; foam preferred. Water, if used, must not enter sewers.

FIRE & EXPLOSION HAZARDS: Toxic irritating gases may be formed above 160°C (320°F).

FIRE-FIGHTING EQUIPMENT: Use positive-pressure, self-contained breathing apparatus and full protective clothing if product is involved in fire.

6. ACCIDENTAL RELEASE MEASURES: (See Section 15 for Regulatory Information)

ACTION TO TAKE FOR SPILLS/LEAKS: Sweep up and place into suitable containers for disposal.

7. HANDLING AND STORAGE:

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Keep out of reach of children. Practice good care and good safety precautions when handling this product. Do not get in eyes, on skin, or on clothing. Avoid breathing dust and spray mist. Do not swallow. Wash thoroughly with soap and water after handling and before eating or smoking. Keep away from food, feedstuffs, and water supplies. Store in original container.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION:

These precautions are suggested for conditions with a high potential for exposure. If handling procedures are such that there is only a low potential for exposure, less protection may be needed. Emergency conditions may require additional precautions.

EXPOSURE GUIDELINE:

Chlorpyrifos: ACGIH TLV and OSHA PEL are 0.2 mg/m³, Skin. ACGIH classification is A4.

Kaolin: ACGIH TLV is 2 mg/m³ respirable; OSHA PEL is 10 mg/m³ total dust, 5 mg/m³ respirable. PELs are in accord with those recommended by OSHA, as in the 1989 revision of PELs.

A 'skin' notation following the exposure guideline refers to the potential for dermal absorption of the material. It is intended to alert the reader that inhalation may not be the only route of exposure and that measures to minimize dermal exposures should be considered.

ENGINEERING CONTROLS: Provide general and/or local exhaust ventilation to control airborne levels below the exposure guidelines.

RESPIRATORY PROTECTION: Atmospheric levels should be maintained below the exposure guidelines. When respiratory protection is required for certain operations, wear a NIOSH approved air-purifying respirator. In dusty atmospheres, use a NIOSH approved dust respirator.

SKIN PROTECTION: No precautions other than clean body-covering should be needed.

EYE PROTECTION: Use safety glasses.

9. PHYSICAL AND CHEMICAL PROPERTIES:

BOILING POINT: Not applicable

VAPOR PRESSURE: Very low

VAPOR DENSITY: Not applicable

SOLUBILITY IN WATER: Wettable powder

SPECIFIC GRAVITY: 0.322 g/mL @22.9°C

BULK DENSITY: 13.0 lb/cu.ft

APPEARANCE: Light gray powder

ODOR: Petroleum odor pH: 8.72 (9.8% dilution in deionized water) @ 21.0°C

10. STABILITY AND REACTIVITY:

STABILITY: (CONDITIONS TO AVOID) Avoid high temperatures. Store below 100°F (38°C). Chlorpyrifos undergoes exothermic decomposition at approximately 130°C (266°F) which can lead to higher temperatures and violent decomposition if generated heat is not removed.

INCOMPATIBILITY: (SPECIFIC MATERIALS TO AVOID) Alkaline materials. Consult manufacturer for specific cases.

HAZARDOUS DECOMPOSITION PRODUCTS: If product is involved in fire, hydrogen chloride, ethyl sulfide, diethyl sulfide and nitrogen oxides can be formed.

11. TOXICOLOGICAL INFORMATION:

TOXICOLOGICAL INFORMATION (See Section 3 for Potential Health Effects. For detailed toxicological data, write the address shown in Section 1 or call the emergency number

MUTAGENICITY: Based on a majority of negative data and some equivocal or marginally positive results,

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chlorpyrifos is considered to have minimal mutagenic potential.

12. ECOLOGICAL INFORMATION:

ECOLOGICAL INFORMATION (For detailed Ecological data, write the address shown in Section 1 or call the emergency number)

Ecotoxicity: Chlorpyrifos is highly toxic to wildlife, avian, fish and aquatic organisms.

13. DISPOSAL CONSIDERATIONS:

DISPOSAL METHOD: Do not contaminate food, feed, or water by storage or disposal. Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of federal law. If wastes resulting from the use of this product cannot be disposed of according to label instructions, dispose of these wastes at an approved facility. Contact your state pesticide or environmental control agency, or the hazardous waste representative at the nearest EPA regional office for guidance.

14. TRANSPORT INFORMATION:

For DOT regulatory information, if required, consult transportation regulations, product shipping papers, or contact your Dow AgroSciences representative.

15. REGULATORY INFORMATION:

NOTICE: The information herein is presented in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ from one location to another; it is the buyer's responsibility to ensure that its activities comply with federal, state or provincial, and local laws. The following specific information is made for the purpose of complying with numerous federal, state or provincial, and local laws and regulations.

U.S. REGULATIONS

SARA 313 INFORMATION: To the best of our knowledge, this product contains no chemical subject to SARA Title III Section 313 supplier notification requirements.

SARA HAZARD CATEGORY: This product has been reviewed according to the EPA "Hazard Categories" promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986

(SARA Title III) and is considered, under applicable definitions, to meet the following categories:

An immediate health hazard
A delayed health hazard

TOXIC SUBSTANCES CONTROL ACT (TSCA): All ingredients are on the TSCA inventory or are not required to be listed on the TSCA inventory.

STATE RIGHT-TO-KNOW: The following product components are cited on certain state lists as mentioned. Non-listed components may be shown in the composition section of the MSDS.

Chemical Name	Cas Number	List
KAOLIN	001332-58-7	PA1
CHLORPYRIFOS	002921-88-2	PA3 NJ3 PA1

NJ3=New Jersey Workplace Hazardous Substance (present at greater than or equal to 1.0%).
PA1=Pennsylvania Hazardous Substance (present at greater than or equal to 1.0%).
PA3=Pennsylvania Environmental Hazardous Substance (present at greater than or equal to 1.0%).

OSHA HAZARD COMMUNICATION STANDARD:

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) RATINGS:

Health	2
Flammability	2
Reactivity	1

COMPREHENSIVE ENVIRONMENTAL RESPONSE COMPENSATION AND LIABILITY ACT (CERCLA, or SUPERFUND):

This product contains the following substance(s) listed as "Hazardous Substances" under CERCLA which may require reporting of releases:

Chemical Name	CAS#	RQ	% in Product
Chlorpyrifos	002921-88-2	1	50%

16. OTHER INFORMATION:

MSDS STATUS:

Revised to reflect company name change

The Information Herein Is Given In Good Faith, But No Warranty, Express Or Implied, Is Made. Consult Dow AgroSciences For Further Information.